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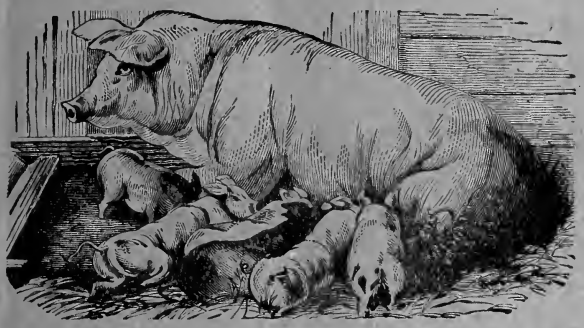
A TREATISE ON SWINE



CARE AND MANAGEMENT, DISEASES AND REMEDIES.

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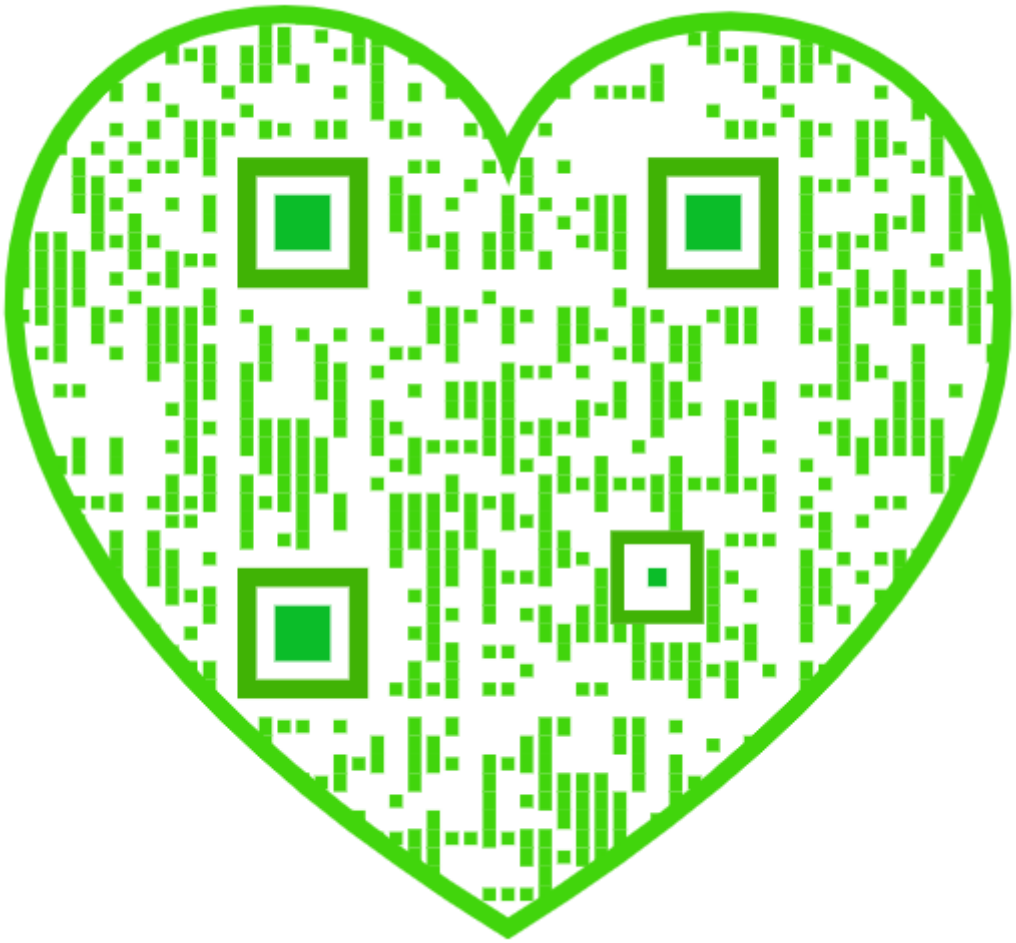

A TREATISE

ON

SWINE;

THEIR CARE AND MANAGEMENT, DISEASES AND REMEDIES.

COMPILED FROM THE BEST SOURCES.

BY

A. W. VANIMAN.

ILLUSTRATED.

COMMERCIAL PUBLISHING CO
ST. LOUIS, MO.
1885.

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TREATISE ON SWINE.

CARE AND MANAGEMENT.

Pigs should always have access to fresh water. No matter how sloppy the food is, or how much dish-water is furnished, they should always be supplied with pure water. We are satisfied that pigs often suffer for want of it.

Salt, sulphur, charcoal, ashes, bone-dust, or superphosphate, should occasionally be placed where the pigs can eat what they wish of them.

Pigs will eat beans, if thoroughly boiled, though they are not fond of them. Peas they eat with avidity, and when as cheap as corn, should be fed in preference, as they afford much the richer manure. Half peas and half corn are probably better than either alone. Peas make very firm pork.

Oil-cake, when fed in large quantities, injures the flavor and quality of the pork, but we have fed small quantities of it with decided advantage to the health and rapid growth of the pigs, without any apparent injury to the lard or pork. It is quite useful for breeding sows. It keeps the bowels loose, and increases the quantity and quality of the milk.

Bran, except in small quantities, is not a valuable food for fattening pigs. It is too bulky. But when the rich, concentrated food is given, such as corn, barley, peas or oil-cake, pigs should be allowed all the bran they can eat.

placed in a separate trough. In this way it becomes a very useful and almost indispensable article to the pig feeder. It is also very useful for breeding sows. The best roots to raise for pigs are parsnips and mangel-wurzel.

The period of gestation in a sow is almost invariably sixteen weeks. In three or four days after pigging, a sow in good condition will generally take the boar. But, as a rule, it is not well to allow it. If she passes this period she will not take the boar until the pigs are weaned. If she fails the first time, she will "come round again" in from two to three weeks.

In mild cases of diarrhœa, nothing is better than fresh skimmed milk, thickened with wheat flour.

Pigs should be castrated a week or two before they are weaned.

Nothing in the management of pigs is more important than to provide a trough for the sucking pigs separate from the sow, and to commence feeding them when two or three weeks old.

Many of the diseases of pigs are contagious, and the instant a pig is observed to be sick it should be removed to a separate pen ; and it would be well to regard this single case of sickness as an indication that something is wrong in the general management of the pigs. Clean out the pens, scald the troughs, scrape out all decaying matter from under and around them, sprinkle chloride of lime about the pen, or, what is probably better, carbolic acid. Dry earth is a cheap and excellent disinfectant. On outside wood-work, troughs, plank floors, etc., use crude petroleum. It is the cheapest and best antiseptic yet discovered.

To destroy lice, wash the pig all over with crude petroleum, and the next day give him a thorough washing with warm water and soap, with the free use of the scrubbing-brush.

Pigs should be provided with scratching posts, having auger holes bored for pegs at different heights, to accommodate pigs of different sizes.

The following description may be considered the perfection of form in a fat pig: The back should be nearly straight, though being arched a little from head to tail is no objection; the back uniformly broad and rounded across along the whole body; the touch along the back should be firm, but springy, the thinnest skin springing most; the shoulders, sides and hams should be deep perpendicularly, and in a straight line from shoulder to ham; the closing behind filled up; the legs short and bones small; the neck short, thick and deep; the cheeks round and filled out; the face straight, nose fine, eyes bright, ears pricked, and the head small in proportion to the body; a curled tail is indicative of a strong back.

BREEDS AND BREEDING.

As is generally known, there are several good breeds which lay claim to public favor, none of which are free from defects, or which embody all the points of a good hog; the Berkshire has retained the good opinion of the public longer than any other breed, and the improved Berkshire is probably our best breed. The Berkshire was first obtained by crossing the Neapolitan with one of the large English breeds. The Neapolitan is a descendant of the improved Roman hog, probably from their best, a proof of the skill of that ancient people in that direction.

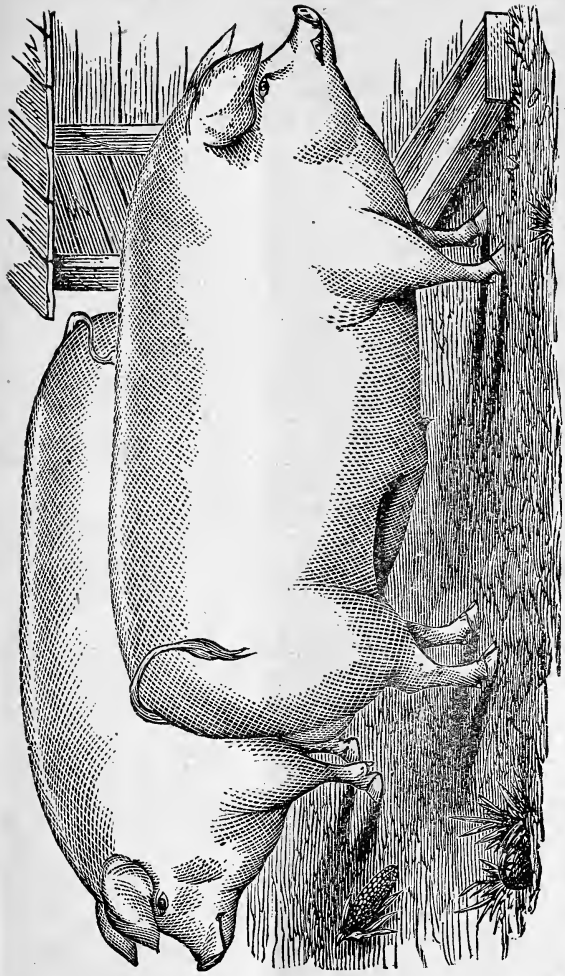
Most of the improved English breeds were obtained by a cross of the large and rather coarse English hog with the fine and delicate Chinese. The Suffolk is the result of one of those crosses, and is esteemed the best breed in England. It is of fair size, and retains in a remarkable degree the fine fattening qualities of its China parent.

The pure Suffolk is almost destitute of hair, a very serious defect under our scorching sun and dry and hot climate; it is rather tender for our Western treatment, but in fattening gives a good return for all the food consumed.

There are several American breeds that have attracted attention, as the Magee hog in Ohio and the Chester White from Pennsylvania, both good hogs, but as yet hardly entitled to be called distinct breeds. It requires a long continued breeding in one direction, with careful and judicious selection, to form a distinct breed, so that all the pigs will be of uniform character, size and form; till fully established, there is a tendency to breed back generally to the most defective progenitor, and till that tendency is overcome, the certainty of reproduction in its perfection cannot be relied on.

The Chester White, when distinctly established, will be as most of the breeds are now, valuable hogs; the square and deep form, stout and erect legs, broad and short head, quiet disposition, good fattening qualities, and heavy weight, form a combination of good qualities that can hardly be surpassed.

Although our best breeds of hogs were obtained by judicious crossing, and our future successful efforts will be perfected in the same way, yet the indiscriminate crossing practiced by our farmers cannot be too strongly condemned. There seems to be a mania for mixing all breeds, while the aim should be to preserve each breed distinct and pure. We often see litters of pigs with no two alike, but each is a representation of some one of the eight or ten breeds whose blood is mingled in the genealogical compound. We once made a cross of the Irish Grazier, a large, slow maturing hog, with the Berkshire, and then crossed that sow with the Suffolk, and the product were three distinct breeds from the same litter—first, a fine, delicate pig that would fatten



CHESTER WHITES.

at any age; second, a medium-sized hog, that would fatten at twelve to eighteen months; and third, a Grazier hog, that would weigh from five to seven hundred, but must be two or two and a half years old before they would lay on fat. Preserve the breed pure and distinct, should be the rule.

Both parents should be at least one year old before being allowed to breed, and if the female should be kept till five or six years for that purpose it would materially improve the size and vigor of the pigs; while breeding from young sows deteriorates both size and vigor. During the period of gestation the sow should never be closely confined, but should have ample room for exercise, with free access to water; the food should be generous, but not too heavy and heating—such as will insure the most perfect health.

The best season for sows to farrow is April, or early in May; an April pig is worth one-third more than a July pig, and more than double a September pig. Some of the breeds can be fattened at any age, but none will fatten as well at one year or as much as at 15 to 18 months; any hog must arrive fully at maturity before it can be easily fattened. And an April pig can be kept till a year from the following January at less expense and trouble than a September pig. While suckling, the sow should have free access to grass, and should have a generous supply of tolerably rich slop, and if fed in a trough easy of access the young porkers will soon learn to feed with her, with decided benefit to themselves and the mother. At eight weeks old they should be weaned—and if they have learned to eat with the mother and are fed milk or dairy slop, with a generous supply of fine bran or coarse meal, they will not fall off, but will continue growing without interruption.

A growing pig should never be fed corn to any amount, it contains too much oil and does not contain elements of

growth; light grain, bran and shorts, with a good supply of grass and succulent vegetables, should constitute their food. After weaning, a pig should never be made extremely fat, it checks the growth and injures their thrift afterwards; nor should they be permitted to become poor—a poor pig can never be made to attain the size or form it would have done had it never been stopped in its growth—like a hill of corn, if it once becomes feeble and sickly, no after culture can atone for the injury done. A mangy pig is worthless, and should be consigned to the golgotha where the dead animals of the farm are deposited.

Neat, cleanly and well sheltered accommodation should be provided for swine, especially during the season of growth. The hog has been much slandered in relation to his uncleanly habits—in some respects the hog is more cleanly than the cow or the horse, or most domestic animals. It is true, like the elephant and other pachyderms, he is fond of bathing, a cleanly habit, and it is more the fault of his keeper than his own that he wallows in mud when better accommodations are not accessible. But if young pigs have to lie in a damp and dirty bed, their skin soon becomes encrusted with scurf, the ears and tail frequently drop off, and the growth is at once arrested. During the entire rearing to the term of fattening, the animal should be kept in a sleek, healthy and growing condition.

The natural instincts of every animal must be consulted and followed, to produce the best results when domesticated.

The hog is impatient of both heat and cold; any unusual exertion during the heat of summer, especially if in full flesh, will frequently cost him his life; comfortable shade should always be provided, convenient of access, such as will protect them from the noonday heats of the summer sun; neglect of this is inexcusable cruelty, and will be a serious drawback from the credit side of the pork account.

Equally important is ample protection from the opposite extreme of the winter cold. Pigs dropped in the fall are unfit, with all the care that can or will be given by our common farm accommodations, to pass uninjured the severity of the winter season. Early spring pigs will do much better, but a well covered, well protected and well littered sty, where the pigs will not lie more than one deep, and when the owner will not have the nightmare from listening to their unearthly screams from suffering from the biting cold, is essential to successful pork raising. And we do not believe that any good Christian can say his prayers and sleep easily and quietly while the whole neighborhood is made vocal by the cries of his freezing pigs.

During the cold season, a proportion of corn as food is not objectionable. It is well calculated to keep up the animal heat, and from the care and convenience of feeding it is now, and doubtless will continue to be, the principal food at that season. Yet the best results will follow when most of the coarser grains, with bran made into slop, and refuse apples, potatoes, or other roots or green food, constitute the diet.

Dry grain of any kind is not the best feed, and for this reason the hogs that follow beef cattle highly fed with corn do better than when they receive the corn directly from the crib.

During the summer, before fattening, a clover or timothy pasture is indispensable to successful fattening, and to economical production of pork—and the next best course is soiling with clover, timothy, or other succulent grasses or vegetables. Confinement in small pens, and heavy feeding with corn, is the most expensive as well as the least successful preparation for fattening in the fall that can well be adopted. If fed through the hot weather exclusively on corn, the teeth become sore, and the animal is

generally diseased. At killing time the livers will generally be found diseased, and it will be found impracticable to make them put on fat.

One autumn, when corn was worth twenty cents, a neighbor inquired of us if we could tell why his hogs would not fatten, and also saying that most of his neighbors made the like complaint. We replied that the reason was obvious—cheap corn was the trouble; not that ten cent corn is less nutritious than when the price is one dollar, but it is fed too liberally, and neither a hog nor any other animal can stand full feeding with corn alone but a few months and continue in health. The proper course is to so feed during the summer as to preserve the animals in the most perfect health, keep them thriftly growing and slightly gaining in flesh, so as to prepare them best for the fattening process, which is always more or less a health-destroying process. With good clover or timothy pasture, a little corn or other grain is not objectionable, but they will do well on the pasture alone—they will grow but not fatten—and if kept through the summer on grass alone, will be in admirable condition to take on flesh; they will account promptly for every kernel of corn judiciously given them.

Their teeth and digestive organs are all fresh and in good condition, and with strong appetites and vigorous health their advance to the condition of respectable porkers is easy and rapid. Sudden changes from solid to succulent food should be carefully avoided, and, *vice versa*, the change from grass to heavy feeding with corn should be very gradual, especially as the fattening season commences.

There is one primary rule in fattening that should never be violated—the change of feed should always be from lighter to heavier, and never from heavier to lighter. Consequently, when taken from grass and vegetables, a little soft corn or meal should be gradually introduced. Corn

cut while the kernel is in the milk is good food to follow the grass. The gradual hardening of the grain will be a proper increase of the nutrient quality of the food. When fairly established on a diet of sound corn, it should be fed on a clean floor, and in amount about what will be eaten, but not so as to have a kernel left. The practice of leaving a quantity of corn more than will be eaten on the feeding floor is a very wasteful and bad practice. The nice point to ascertain is to find, by measurement, the amount that will be consumed without any waste, and then to always measure the feed by that standard, varying the amount as their appetites require. There are no animals that will retain their appetite and thrive as well when fed to a surfeit, with the unused food blown and dirty constantly before them, as they will with just enough to give healthy and full action to the digestive organs, and to preserve the appetite unimpaired. To effect this, the last of each feed should be consumed with avidity. Thus the old adage, that the lazy farmer who leaned upon the fence while his hogs finished their meal always had the leanest pork, has much significance.

Plenty of water, with occasionally a little salt, coal and ashes to correct the acidity of the stomach of the gourmand porkers, completes the required dietary. This system of feeding is adapted to corn fattening as practiced at the West.

Our Eastern friends have a somewhat different system. First, having secured the necessary buildings, kettles, troughs, etc., they commence the fattening process by boiling vegetables, such as apples, potatoes, pumpkins, or any other that hogs will eat, and when thoroughly cooked, these constitute the food for the first few days; they then commence adding a very little meal, mixing it with the hot boiled or steamed vegetables, so as to cook it thoroughly.

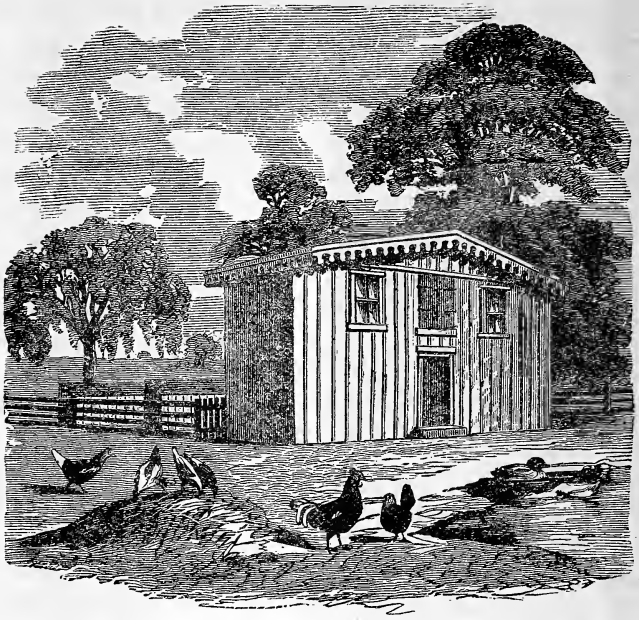
When the mess has undergone a slight fermentation it is ready for use. The amount of meal is very gradually increased, till toward the close of the fattening season, when meal alone is given; the meal is of corn, oats, buckwheat and barley, ground, either mixed or separately.

Hogs kept in a close pen and fed corn through the whole period of their existence will figure up the profits on the wrong side of the balance sheet; and much depends on the breed—there will be a wide difference between results from a good and inferior breed with the same keeping. There is much point in the reply of the man when his neighbor wanted to get some of his breed of hogs, that he would want his swill tub too. Yet both a good breed and a well filled trough are essential to successful pork raising.

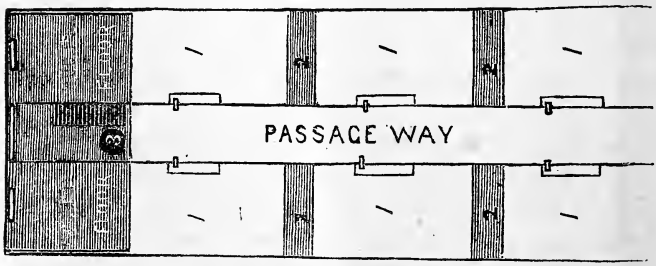
Keep your eye on the market, and get all the information you can concerning the supply of hogs and pork. Take advantage of a rise and sell. Fine, smooth, even lots of hogs are always in demand, and are certain to bring the top price. Farmers living over a mile from market will find it much the best plan to erect a chute, loading their hogs into wagons and hauling them. In case they are driven, some of their bedding should be taken along in a wagon for use on bridges. Hogs will readily walk over a bridge on their old bedding. After passing over one bridge the bedding can be raked up, loaded into the wagon, and used on the next, and so on.

A Well-arranged Piggery.—Paschal Morris, of Philadelphia, an extensive breeder of Chester Whites, describes his plan of a piggery as follows:

"The plan of the piggery delineated in the accompanying engraving is susceptible of reduction or extension, for a larger or smaller number of pigs, and is intended to supersede the not only useless, but objectionable, as well as expensive, mode of constructing large buildings under one



ELEVATION OF PASCHAL MORRIS' PIGGERY.



GROUND PLAN.

roof, where confined and impure air, as well as the difficulty of keeping clean, interfere greatly with both health and thrift. Twenty-five or thirty breeding sows, farrowing at different periods of the year, can be accommodated under this system of separate pens, by bringing them successively within the enclosure, or an equal number of hogs can be fattened, without crowding or interference with each other.

"The entrance, as seen in the engraving, is on the north side of the building, which fronts the south, as does also each separate pen. The main building is 32 feet long, by 12 feet wide, with an entrance gate at each lower corner to the yard of the two first divisions. The entry, or room in the center, is 8 feet wide, allowing space for slop barrel, feed chest, charcoal barrel (almost as indispensable as feed chest), hatchway for access to root cellar underneath the whole building, and also passage-way to second story. This latter is used for storing corn in winter, and curing some varieties of seeds in summer. A wooden spout with sliding valve conveys feed to the chest below. The grain is hoisted to the second floor by a pulley and tackle on the outside, as observed in engraving.

"The perspective of main building allows a partial view of platforms, surmounted by a board roof, and divisions in the rear. The ground plan allows six of these on either side of the passage-way. The first two pens, to the right and left of the door, are 12×12 feet each, and attached to them are 25 feet in length of yard, by 15 feet wide.

"All the yards are extended 3 feet wider than the building, which admits of the two entrance gates at the corners.

"Another division then commences, consisting of a raised platform, 6 to 8 feet wide, and extending the same width as the first pen, with a board roof over it, and also boarded up on the back, which answers the purpose of a division fence, to separate from the pen behind. Twenty-five feet of yard

are also attached to this, and the same arrangement is continued to all the six divisions.

"Each yard is used for the deposit of refuse vegetables and weeds, litter, etc., thrown in from time to time, to be consumed or converted into manure. This is conveniently loaded into a cart, passing along on the outside of each range of pens."

DISEASES AND REMEDIES.

Debility, General, or Emaciation.—The falling off in flesh or wasting away, of swine, is in most cases owing to derangement in the digestive organs. The cure consists in restoring the tone of these organs. We commence the treatment by putting the animal on a boiled diet, consisting of bran, meal, or any wholesome vegetable production. The following tonic and diffusible stimulant will complete the cure: Powdered golden seal, powdered ginger, equal parts. Dose, a teaspoonful, repeated night and morning.

When loss in condition is accompanied with cough and difficulty of breathing, mix, in addition to the above, a few kernels of garlic with the food. The drink should consist of pure water. Should the cough prove troublesome, take a teaspoonful of fir balsam, and the same quantity of honey; to be given night and morning, either in the usual manner, or it may be stirred into the food while hot.

Epilepsy.—The symptoms are too well known to need any description. It is generally caused by plethora, yet it may exist in an hereditary form.

Feed with due care, and put the animal in a well-ventilated and clean situation; give a bountiful supply of valerian tea, and sprinkle a small quantity of scraped horse radish in the food; or give powdered assafœtida, 1 ounce; powdered capsicum, 1 teaspoonful; table salt, 1 tablespoonful. Mix. Give half a teaspoonful daily.

Dr. Dun states with reference to epilepsy, with which pigs are often suddenly attacked, that the inherited tendency may be mitigated by keeping the animals clean, warm and comfortable, and supplied with a sufficiency of good, digestible, and somewhat laxative food.

"To eradicate it, the stock must receive an infusion of new blood; and this is especially necessary, as epilepsy in pigs depends in most cases on continued breeding in-and-in."

FITS.—See EPILEPSY.

RHEUMATISM.—Exposure, wallowing in filth, etc.

It is recognized by a muscular rigidity of the whole system. The appetite is impaired, and the animal does not leave its sty willingly.

Keep the animal on a boiled diet, which should be given to him warm. Remove the cause by avoiding exposure and filth, and give a dose of the following, equal parts: Powdered sulphur, powdered sassafras, powdered cinnamon. Dose, half a teaspoonful, to be given in warm gruel. If this does not give immediate relief, dip an old cloth in hot water (of a proper temperature), and fold it round the animal's body. This may be repeated, if necessary, until the muscular system is relaxed. The animal should be wiped dry, and placed in a warm situation, with a good bed of straw.

OPHTHALMIA.—Sudden changes in temperature, unclean sties, want of pure air and imperfect light.

Keep the animal on thin gruel, and allow two teaspoonfuls of cream of tartar per day. Wash the eyes with an infusion of marsh-mallows, until a cure is effected.

VERMIN.—Some animals are covered with vermin, which even pierce the skin, and sometimes come out by the mouth, nose and eyes. The animal is continually rubbing and scratching itself, or burrowing in the dirt and mire.

First wash the body with a strong lye of wood ashes or weak saleratus water, then with an infusion of lobelia. Mix a teaspoonful of sulphur, and the same quantity of powdered charcoal, in the food daily.

Or, procure some leaf tobacco, and boil it to a strong amber in water sufficient to float it. Mix in, while hot, sufficient amount of lard or refuse grease to make a thin salve, rub on the pigs or hogs troubled, and in less than 24 hours, if the ointment is thoroughly applied, they will not have a single louse on them.

Colic.—Spasmodic and flatulent colic requires anti-spasmodics and carminatives, in the following form: Powdered caraway seeds, one teaspoonful; powdered assafœtida, one-third of a teaspoonful. To be given at a dose in warm water, and repeated at the expiration of an hour, provided relief is not obtained.

Trichinæ.—To prevent the Trichinæ from getting into our hogs, it is necessary to remember that the most likely sources of the parasite are the animal offal and garbage which they eat when allowed to run at large, and the rats they are apt to devour when they can get at them; in illustration of which fact it may be mentioned that the pigs in Ireland, which are allowed much more liberty of wandering, and are less regularly fed than their congeners in England and Prussia, are more apt than these others to present the Trichinæ upon microscopic investigation. It is therefore advisable to keep pigs intended for human consumption in clean sties, containing only one or two each, and impervious to rats. The animals should be plentifully fed with sound grain, buttermilk, etc., well watered, and allowed some salt occasionally; in other words, placed in good hygienic conditions, and excluded from diseased food. It may perhaps seem necessary to dwell upon the value and necessity of measures which commend themselves at once as affording

not only the best safeguard against the special disease under notice, but as going far toward the prevention of other diseases to which the hog is subject. Yet in view of the neglect and even positive abuse with which pigs are treated throughout the land, it is well that breeders should understand the fearful consequences liable to result from carelessness, which, in matters of such vital importance, is closely allied to criminality.

CHOLERA.

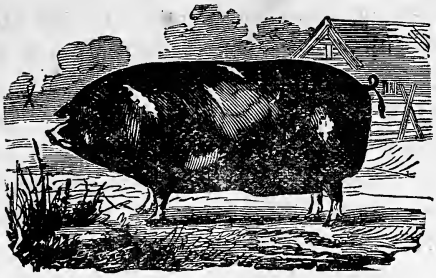
The Death Rate.—The losses which follow the introduction of this disease into a herd are, as a rule, very heavy. The younger the animals the greater the proportional losses. If pigs not more than three months old are attacked, the loss will run from 90 to 100 per cent; in six months old pigs the mortality is usually from 75 to 95 per cent; while in full-grown hogs the loss is generally from 40 to 50 per cent, but under exceptionally favorable circumstances may fall as low as 25 per cent. Death may take place early in the disease, often during the first twenty-hours in young animals. In older animals the disease is not usually rapidly fatal; and the patient may live along for two or three weeks even. If the animal recovers, he is of little value, for he does not thrive, and generally it costs more to fatten him than he is worth. In no disease to which the lower animals are subject can preventive measures be adopted with better results than those which may be secured in connection with the swine plague.

Treatment of the Disease.—When this disease makes its appearance on any premises, the most rigid of suppressive measures should be adopted at once. No time should be lost in attempting treatment, for while this is being done others become infected, and the disease is soon beyond control. Kill the sick the moment they show signs of the dis-

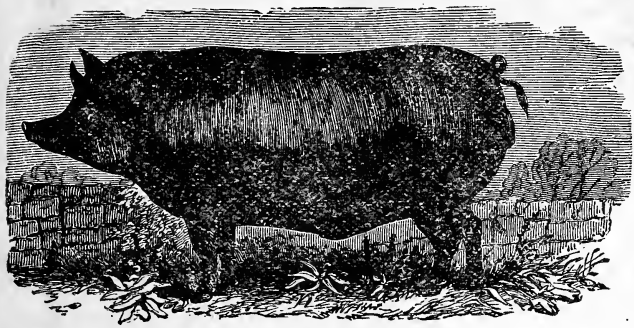
ease, and burn or deeply bury not only the carcasses, but all the litter and other material which may be infected. Immediately remove to another locality all the other animals which have been in contact with the diseased ones, and keep them by themselves. Thoroughly clean and disinfect the infected pens with whitewash and carbolic acid. Then board them up, so that they may not be used for a period of six months. Infected yards should be carefully cleaned, covered with loose straw, which is to be burned, after which slacked lime should be spread over the entire surface, and the fences whitewashed with carbolized lime. If new cases appear in the infected herd after they have been moved to new ground, kill off the diseased ones. Move those which are well to other new ground, and apply the disinfection measure. If this method is followed with care, an outbreak can be soon suppressed.

Choking.—Choking is often produced by feeding on roots, particularly round and uncut roots, like the potato. The animal slavers at the mouth, tries to raise the obstruction from the throat, often groans, and appears to be in great pain. Then the belly begins to swell, from the amount of gases in the paunch.

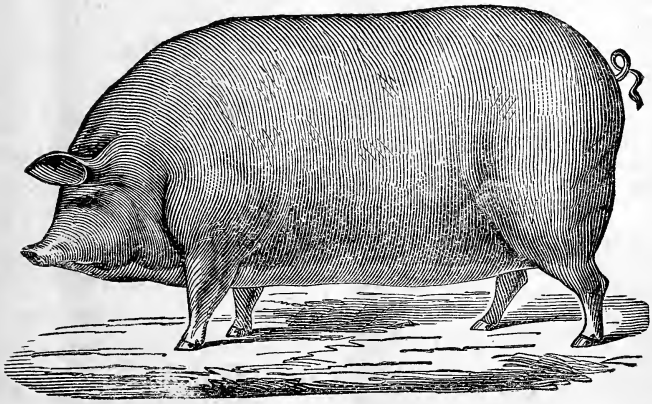
The obstruction, if not too large, can sometimes be thrust forward by introducing a flexible rod, or tube, into the throat. This method, if adopted, should be attended with great care and patience, or the tender parts will be injured. If the obstruction is low down, and a tube is to be inserted, a pint of olive or linseed oil first turned down the throat will so lubricate the parts as to aid the operation, and the power applied must be steady. If the gullet is torn by the carelessness of the operator, or the roughness of the instrument, a rupture generally results in serious consequences. A hollow tube is best, and if the object is passed on into the paunch, the tube should remain a short time, to permit



POLAND CHINA.



NEAPOLITAN AND ESSEX CROSS.



SUFFOLK.

the gas to escape. In case the animal is very badly swelled, the dose of chloride of lime or ammonia should be given, as for the hoove, after the obstruction is removed.

Care should be taken, after the obstruction is removed, to allow no solid food for some days.

Black Teeth.—Sickness in hogs from indigestion, deranged biliary or urinary secretion, is sometimes attributed to an imaginary disease called the black tooth. The treatment usually adopted is to examine the teeth of the animal, and if one is found blacker than the rest, it is supposed to be the cause of the disease, and is hammered off even with the jaw, leaving the broken roots and lacerated nerves of the tooth to increase the suffering of the animal. Notwithstanding all this cruel treatment, the hog sometimes recovers, and would probably have done so much sooner if he had been let alone. The tooth in these cases is not diseased, but only stained by food or otherwise. The cruel treatment of breaking off the tooth down to the nerve would certainly cause disease, and might, in connection with the true one, cause the death of the animal. A proper treatment would be to wash the hog thoroughly with soap and water, and give it three or four ounces of castor oil.

Rot, Tails of Young Pigs.—The tails of young pigs frequently drop or rot off, which is attended with no further disadvantage to the animal than the loss of the member. The remedies are, to give a little brimstone or sulphur in the food of the dam; or rub oil or grease daily on the affected parts. It may be detected by a roughness or scabbiness at the point where separation is likely to occur.

Bleeding.—The most convenient mode is from an artery just above the knee, on the inside of the foreleg. It may be drawn more copiously from the roof of the mouth. The flow of blood may usually be stopped by applying a sponge or cloth with cold water.

The diseases of swine, though not numerous, are formidable, and many of them soon become fatal. They have not been the subject of particular scientific study, and most of the remedies applied are rather the result of casual or haphazard suggestion, than of well-digested inference from long-continued and accurate observation.

The cardinal principles of successful pig raising are, to breed only from sound and healthy parents of remote relationship, to keep the animal in dry, warm and cleanly quarters, to feed regularly and with varying food, and to remove as early as possible any diseased or weakly animal from the herd.

Apoplexy and Inflammation of the Brain.—In distilleries, and where many hogs are kept, and too well kept, this is a very destructive and not unfrequent malady. If the swine had been carefully observed, it would have been seen that they were making a more than usually rapid progress, but there was at the same time a laziness, or heaviness, or stupidity about them. A dose or two of physic would have removed this, and not have interfered with the fattening; indeed they would have thriven the better after it. If this, however, has been neglected, the apoplexy will probably be established. The swine, in the act of feeding, or when moving across the sty, will fall suddenly, as if struck with lightning, He will be motionless for a little while, and then convulsions will come on, strong and dreadful; the eyes will seem protruded, the head and neck will swell, and the veins of the neck will be brought into sight, notwithstanding the mass of fat with which they may be covered. In the midst of his struggles the animal will be perfectly unconscious. He will often die in a few minutes, or should he recover, he will be strangely exhausted, and some internal injury will be evidently done, so that he will afterwards be very subject to returns of these attacks, either of apoplexy or of fits.

The course here is plain enough : he should be bled, and bled copiously. Indeed, the blood should be suffered to flow as long as it will. Two or three ounces of Epsom salts should then be given; the quantity and the heating character of the food should be diminished, and a couple of drachms of sulphur given daily in the first meal.

When apoplexy or fits have once appeared in a sty they spread like wild-fire. There is nothing contagious in them, but there is the power of sympathy acting upon animals become too disposed to inflammation and fever. The most forward of them should be disposed of as soon as possible.

The habit of fits once established cannot easily be broken, and the only way to prevent the continuance of much annoyance is to separate those that are oftenest affected from the rest, and to fatten them as soon as possible.

Measles.—This is an inflammatory disease, not always indeed discovered during the life of the animal, but plain enough after death, and very considerably diminishing the value of the carcass. The red and pimpled appearance of the skin, or of the cellular subtance between the flesh and the skin, sufficiently marks the disease. It shows that there has been general inflammation, either resulting from the fattening process being carried too far, or, much oftener, from the animal having too suddenly been taken from poor keep, and suffered to have as much as it will eat of highly nutritious and stimulating food. The measles are very seldom or never fatal, but the disease may generally be recognized by the pink blush of the skin, or of some parts of it, and by the hog rubbing himself more than usual, while the skin is free from pimples and scurf. The remedy would be a less quantity of food, or of not so stimulating a character, and occasional doses of Epsom salts or sulphur.

Mange.—Few domesticated animals are so subject to this loathsome disease as the hog if he is neglected and filthily

kept; but in a well cleaned and well managed piggery it is rarely or never seen, unless some, whose blood from generation to generation has been tainted with it, should be incautiously admitted. A mangy hog cannot possibly thrive well. His foul and scurfy hide will never loosen so as to suffer the accumulation of flesh and fat under it.

Except it is hereditary, it may, although with some trouble, be perfectly eradicated. The first thing to be done is to clean the hog well; without this all external application and internal medicines will be thrown away. The animal must be scrubbed all over with a good strong soap lather, and when he is well dried with wisps of straw he will be ready for the ointment, and no better one can be used than the following: Flower of sulphur, 1 pound; Venice turpentine, 4 ounces; rancid lard, 2 pounds; strong mercurial ointment, 4 ounces. Rub them well together. A little of this should be well rubbed all over him every second or third day; but at the same time internal medicine, such as the following Alterative Powder, should not be omitted: Flower of sulphur, ¼ ounce; Æthiop's mineral, 3 grains; nitre and cream of tartar, ½ drachm. Mix and give daily in a little thickened gruel or wash.

There is no animal in which it is more necessary to attack this and similar diseases constitutionally.

This, like the scab in sheep, is a very infectious disease, and care should be taken to scour the sty well with soap, and afterwards to wash it with a solution of chloride of lime, as recommended elsewhere. The rubbing post, that useful but too often neglected article of furniture in every sty, should particularly be attended to.

Feet, Soreness of the.—This often occurs to pigs that have traveled any distance; the feet often become tender and sore. In such cases, they should be examined, and all extraneous matter removed from the foot. Then wash with weak lye. If the feet discharge fetid matter, wash with the following mixture; Pyroligneous acid, two ounces; water, four ounces.

In the treatment of diseased swine, the "issues," as they are called, ought to be examined, and be kept free. They may be found on the inside of the legs, just above the pastern joint. They seem to serve as a drain or outlet for the

morbid fluids of the body, and whenever they are obstructed, local or general disturbance is sure to supervene.

Pigging.—The sow usually goes with pig four months, but there is more irregularity in her time than in that of any other of our domesticated quadrupeds. A week or ten days before her pigging she should be separated from the rest, otherwise the young ones would probably be devoured as soon as they are dropped; and if she shows any disposition to destroy them, or if she has ever done so, she should be carefully watched, a muzzle should be put upon her, and her little ones should be smeared with train oil and aloes as soon as possible.

The teats of the sow will sometimes swell, and hard knots may be felt in them, as in the garget of cattle. The following ointment may be rubbed with advantage into the teats: Soft soap, 1 pound; mercurial ointment, 2 ounces; camphor, rubbed down with a little spirit of wine, 1 ounce; rub them well together. The teats should be carefully wiped or washed before the young ones are permitted to suck again; indeed they will not suck while any unusual smell remains about the teats. The milk should also be gently but well pressed out of the diseased teats. A dose of physic, however, is indispensable.

When it is wished to spay a breeding sow, in order that she may be put up for fattening, it may be done while she is suckling. The young pigs may be cut at three or four weeks old; they should never be suffered to suck longer than two months; and they may be rung as soon as convenient after weaning. No hog should escape ringing, even if he is destined to stay in the sty. It is the only way to keep him quiet, and will contribute materially to his thriving.

Quinsy.—This disease in the hog is compounded of sore throat and enlargement of the glands of the throat, and is something like strangles in the horse—inflammation and enlargement of the cellular substance between the skin and muscles under the lower jaw. The progress of the malady is rapid, and the swelling is sometimes so great as to prevent the breathing, and consequently to suffocate the animal. To a skin so thick as that of the hog it is useless to make any external application. The patient should be bled; two ounces of salts should be given, and half ounce doses

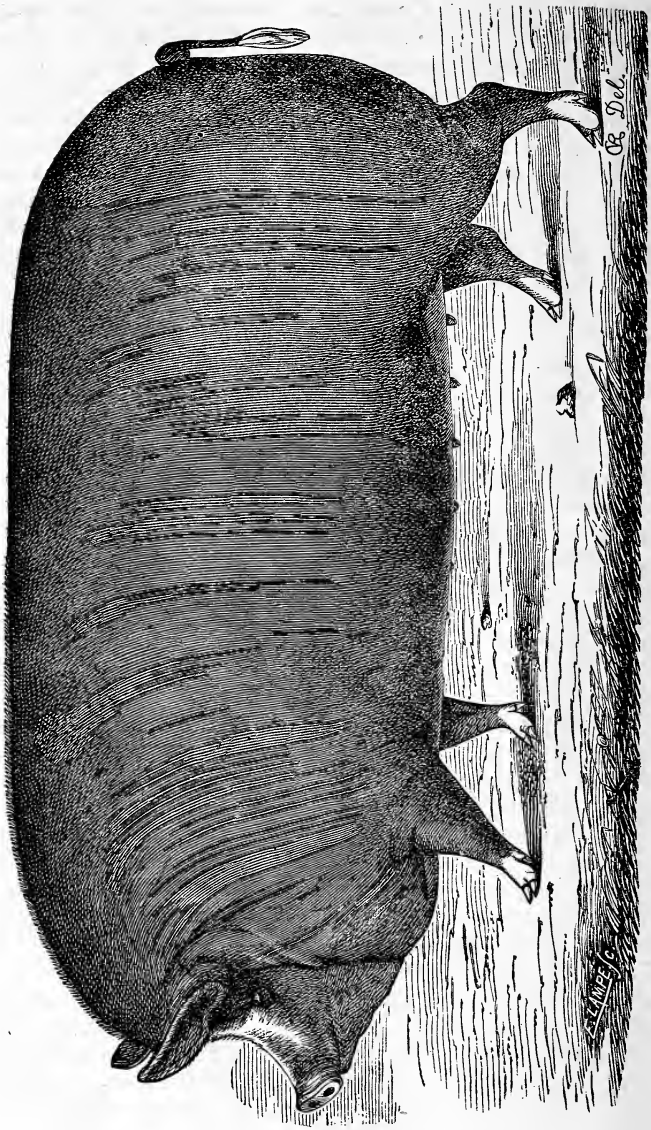
repeated every six hours, until the bowels are well opened; while warm weak wash, or milk and water should be occasionally poured into the trough. It is not a dangerous disease if remedies are early adopted.

Inflammation of the Lungs.—This complaint is known among the breeders and fatteners of swine by the term of rising of the lights. There seems to be a peculiar tendency in every malady of this animal to take on a highly inflammatory character. It is the consequence of the forcing system that is adopted in the fattening of the hog. It resembles the blood or inflammatory fever of oxen and sheep—a general and high degree of fever, produced on a system already strongly disposed to take on intense inflammatory action from the slightest causes. Every little cold is apt to degenerate into inflammation of the lungs in the fatted or fattening hogs; and so many cases of this sometimes occur in the same establishment, or the same neighborhood—in fact, among those who are exposed to the same exciting cause, that the disease is mistaken for an epidemic. There is no doubt that when this heaving of the lights begins to appear in a herd of swine, a great many of them are sooner or later affected by it and die. It is not the cough or cold that is epidemic, but it is the plethora and inflammatory state of the animals that cause it to be so general as well as fatal.

The early symptom is cough. A cough in a hog is always a suspicious circumstance, and should be early and promptly attended to. The disease is rapid in its progress. The animal heaves dreadfully at the flanks; he has a most distressing cough, which sometimes almost suffocates him, and he refuses to eat. The principal guiding symptom will be the cough getting worse and worse, and becoming evidently connected with a great deal of fever.

In many cases congestion takes place in the lungs, and the animal dies in three or four days; in others he appears for a while to be getting better; but there is a sudden relapse, a frequent, dry, husky cough comes, there is a little appetite, rapid wasting, and the hog dies in a few weeks, evidently consumptive.

The first thing that is to be done is to bleed, and the most convenient place to bleed the hog is from the palate. If an imaginery line is drawn from between the first and second



BERKSHIRE SOW.

front middle teeth, and extending backward an inch along the palate, and the palate is there cut deeply, with a lancet or fleam, plenty of blood will be obtained. A larger quantity of blood, however, can be extracted from the vein on the inside of the fore-leg, about an inch above the knee. The application of cold water with a sponge will generally stop the bleeding without difficulty, or at least so far arrest it that no harm will be done if it should continue a little while longer. An assistant may easily open the mouth sufficiently for all this by means of a halter or a stout stick, but beyond this the swine is an awkward patient to manage. He will struggle obstinately against every attempt to drench him, and the inflammation may be aggravated by the contest. It will, therefore, be necessary in the majority of cases to endeavor to cheat him by mixing his medicine with his food.

Here we must recollect the nature of his stomach; it is not of that insensible character and difficult to be acted upon or nauseated as in the cow and the sheep, but it approaches as nearly as possible to the structure of that of the human being; and we must adapt our medicine accordingly. The emetic tartar must be omitted from the Fever Medicine, or it would sadly vomit the patient. The following Fever Medicine may be given: Digitalis, 3 grains; antimonial powder, 6 grains; nitre, ½ drachm. Mix and give in a little warm swill, or milk, or mash.

In the greater number of cases the animal will readily take this; but if he is so ill that nutriment of every kind is refused, he must be drenched.

This should be repeated morning, noon and night, until the inflammation is abated. A purgative should quickly follow, and we have those for the hog which are mild as well as effectual, and from which no danger can result. The Epsom salts may be given in doses of from one to three ounces, and they will communicate a not unpleasant or unusual flavor to his broth or swill.

As this inflammation of the lungs in the hog rivals in the speed with which it runs its course, and in its intensity and fatality, the blood or inflammatory fever of oxen and sheep, no time should be lost in adopting the proper measures, and the bleeding should be copious, and the medicine given in

doses sufficiently powerful. When the disease lingers on, and the dry, husky cough remains, and the animal is evidently wasting, medicine will be in a manner useless, and warmth, and cleanliness, and food that has no heating quality, afford the only chance of cure.

Sore Ears.—There are often troublesome cracks and sores at the back of the large lop-ears of some breeds. If there is any disposition to mange, it is most evident about the ears of these animals, and the mischief is sadly aggravated when brutes in human shape set every ferocious dog at the stray pig, the favorite hold of which is the ear. The Healing Cleaning Ointment will most readily heal the sores: Lard, 2 pounds; resin, ½ pound; melt them together, and when nearly cold, stir in calamine, very finely powdered, half a pound.

Costiveness.—This is not an uncommon complaint of the confined and fattening hog, and is easily removed by the Epsom salts, or the Alterative Powder, given under head of mange.

Sometimes, however, this costiveness is produced by inflammation of the bowels, which is attended by considerable pain, heat and tenderness of the abdomen, with a quick pulse, and other symptoms of fever, and sometimes by fits and insensibility. The treatment should consist of copious bleeding, oily laxatives, clysters, warm fomentations to the abdomen, and, if the animal is not too large, warm baths.

Red Eruption.—This disease is somewhat analogous to scarlet fever. It makes its appearauce in the form of red pustules on the back and belly, which gradually extend to the whole body.

The external remedy is: Powdered bloodroot, half an ounce; boiling vinegar, one pint. When cool, it should be rubbed on the external surface. The diet should consist of boiled vegetables, coarse meal, etc., with a small dose of sulphur every night.

Dropsy.—The animal is sad and depressed, the appetite fails, respiration is performed with difficulty, and the belly swells.

Keep the animal on a light, nutritive diet, and give a handful of juniper berries, or cedar buds, daily. If these fail, give a table-spoonful of fir balsam daily.

Catarrh.—Occasional fits of coughing, accompanied with a mucous discharge from the nose and mouth, caused by exposure to cold and damp weather.

Give a liberal allowance of gruel made with powdered elm or marsh-mallows, and give a teaspoonful of balsam copaiba, or fir balsam, every night. The animal must be kept comfortably warm.

Frenzy.—This makes its appearance suddenly. The animal, having remained in a passive and stupid state, suddenly appears much disturbed, to such a degree that it makes irregular movements, strikes its head against everything it meets, scrapes with its feet, places itself quite erect alongside of the sty, bites anything in its way, and frequently whirls itself round, after which it suddenly becomes more tranquil.

Itch.—Itch may be cured by anointing with equal parts of lard and brimstone. Rubbing posts and a running stream to wallow in, are preventives.

Kidney Worms.—The kidney worm is frequently fatal; and always produces weakness of the loins and hind legs, usually followed by entire prostration. A pig thus far gone is hardly worth the trouble of recovering, even where practicable.

Preventives.—Preventives are general thrift, a range in a good pasture, and a dose of half a pint of wood ashes every week or fortnight in their food. A small quantity of saltpetre, spirits of turpentine, or tar, will effect the same object. When attacked, apply spirits of turpentine to the loins, and administer calomel carefully; or give half a tablespoonful of copperas daily for one or two weeks.

Blind Staggers.—Blind staggers is generally confined to pigs, and manifests itself in foaming at the mouth, rearing on their hind legs, champing and grinding their teeth, and apparent blindness. The proper remedies are bleeding and purging freely, and these frequently fail. Many nostrums have been suggested, but few are of any utility. It is important to keep the issues on the inside of the fore legs, just below the knee, thoroughly cleansed.

Give half an ounce of Rochelle salts in a pint of thoroughwort tea. If the bowels are not moved in the course of

twelve hours, repeat the dose. A light diet for a few days will generally complete the cure.

JAUNDICE.—This disease is recognized by the yellow tint of the *conjunctiva* (white of the eye), loss of appetite, etc. The remedy is: Powdered golden seal, half an ounce; powdered sulphur, one-fourth of an ounce; powdered blue-flag, half an ounce; flaxseed, one pound. Mix, and divide into four parts, and give one every night. The food must be boiled, and a small quantity of salt added to it.

SOWS NEAR FARROWING, TREATMENT OF.—During the whole period of pregnancy sows should be moderately well fed, but not so much as to produce much fatness, as this would be the means of reducing the number of the litter, or risk them being smothered by their unwieldy dam lying down on them. As farrowing approaches, the food must be semi-liquid or gently laxative, since costiveness at this period generally fosters fever, and hence sows devour their offspring. Gentle exercise is beneficial to all pregnant healthy animals, and for this the pen should be roomy. It is best to protect the sow against injury from other pigs. The pen should be airy and clean, and, until the last day or two of pregnancy, comfortably littered. As the time approaches, or when uneasiness or the piling of litter for a bed shows its near advent, clear out the pen, and cover it with a thin litter of chaff only. This is necessary to prevent smothering the pigs, particularly if the sow be large or fat. Soon remove the pigs when they are brought forth, keeping them away until after the afterbirth. In all circumstances the afterbirth should be removed at once. However natural it may be for the wild animal to devour this, the practice, if allowed among domesticated swine, develops the propensity to devour their offspring. A drink of milk gruel, or Indian or oatmeal and hot water, will be at once grateful and supporting to the sow during and after parturition; and as soon as the secretion of milk is freely established, the diet should be abundant, soft and laxative. The pen should be kept clean. The litter of chaff should be of a limited amount for a week, until the pigs can be better able to protect themselves.

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